MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT

Permitting and Compliance Division
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Thompson River Co-Gen, L.L.C.
8 – 1st Street East, Suite 205
Kalispell, MT 59901
SW ¼ of the NW ¼ of the NE ¼ of Section 13, Township 21 North, Range 29 West, Sanders County, MT.
UTM Coordinates - Zone 11, Easting 631.6 kilometers (km), and Northing 5270.6 km.

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

Facility Compliance Requirements	Yes	No	Comments
Source Tests Required	X		Method 5, 6, 7, 10, 18, 25, 26
Ambient Monitoring Required	X		PM_{10} Ambient Monitor
COMS Required	X		Boiler Baghouse Opacity
CEMS Required	X		Boiler NO_x and SO_2 CEMS
Schedule of Compliance Required		X	NA
Annual Compliance Certification and Semiannual Reporting Required	X		As Applicable
Monthly Reporting Required		X	NA
Quarterly Reporting Required	X		Boiler Reporting Section III.B of Operating Permit #OP3175-01
Applicable Air Quality Programs			
ARM Subchapter 7 Permit, Construction, and Operation of Air Contaminant Sources	X		Permit #3175-04
New Source Performance Standards (NSPS)	X		40 CFR 60, Subpart Db
National Emission Standards for Hazardous Air Pollutants (NESHAPS)		X	Except 40 CFR 61, Subpart M
Maximum Achievable Control Technology (MACT)	X		40 CFR 63, Subpart DDDDD, Area Source
Major New Source Review (NSR)		X	NA
Risk Management Plan Required (RMP)		X	NA
Acid Rain Title IV		X	NA
State Implementation Plan (SIP)	X		General SIP
Compliance Assurance Monitoring (CAM) Plan	X		Appendix G: SO_2, NO_x, PM_{10}, and HCl

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SECTION I. GENERAL INFORMATION

A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility. The document is intended for reference during review of the proposed permit by the EPA and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit. Conclusions in this document are based on information provided in the original application submitted by Thompson River Co-Gen, LLC (TRC) on August 28, 2001, the Renewal Application submitted on February 16, 2007, and additional submittals on December 18, 2001, February 13, 2002, October 7, 2003, February 20, 2004, April 19, 2004, April 23, 2004, May 3, 2004, May 14, 2004, July 30, 2004, August 9, 2004, September 7, 2004, February 24, 2005, April 8, 2005, November 15, 2005, January 4, 2006, March 13, 2006, May 3, 2006, May 26, 2006, June 9, 2006, December 8, 2006, and January 5, 2007.

B. Facility Location

The TRC plant is located approximately 3.7 miles east-southeast of Thompson Falls, Montana. The legal description of the site is in the SW ¼ of the NW ¼ of the NE ¼ of Section 13, Township 21 North, Range 29 West, Sanders County, Montana. The approximate universal transverse mercator (UTM) coordinates are Zone 11, Easting 631.6 kilometers (km), and Northing 5270.6 km.

C. Facility Background Information

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or damaging of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department of Environmental Quality (Department) is required to complete a Taking and Damaging Checklist. As required by 2-10-101 through 105, Montana Code Annotated (MCA), the Department has conducted a private property taking and damaging assessment and has determined there are no taking or damaging implications. The checklist was completed on January 9, 2007.

D. Permit History

Montana Air Quality Permit History

On November 9, 2001, TRC was issued final Montana Air Quality Permit (MAQP) #3175-00 for the construction and operation of a 12.5-megawatt (MW) capacity electrical and steam co-generation plant. The plant was permitted for a 156 MMBtu/hr heat input capacity coal and wood-waste biomass-fired boiler and associated fuel handling, storage, and support facilities.

On September 7, 2004, the Department received a complete application for proposed modifications to the permitted TRC operations. Based on the information contained in the complete permit application, the following modifications were made under MAQP #3175-01:

- Increase in the allowable boiler baghouse emission rate (lb/hour) for PM/PM_{10}. The previously permitted Best Available Control Technology (BACT) emission limit determination of 0.017 grains per dry standard cubic feet (gr/dscf) of air-flow through the boiler baghouse would remain applicable to the baghouse-controlled boiler operations. However, due to the increase in capacity air-flow through the baghouse the permit action resulted in an increased allowable Particulate Matter (PM) and particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) emission rate of 5.90 lb/hr;

- Incorporation of an enforceable boiler I.D. fan flow capacity of 70,000 acfm, calculated as 40,513 dry standard cubic feet per minute (dscfm);
- Increase in the facility electrical output capacity from 12.5 MW to 16.5 MW;
- Incorporation of an enforceable boiler heat input capacity limit of 192.8 MMBtu/hr and 1,688,928 MMBtu/yr. This limit would be monitored on a continuous basis using information obtained from the required coal analysis and published wood-waste fuel specifications. Based on the hourly limit, the source is below the listed New Source Review – Prevention of Significant Deterioration (NSR/PSD) heat input threshold value of 250 MMBtu/hr;
- Incorporation of an enforceable annual maximum boiler coal feed limit of 105,558 tons during any rolling 12-month time period. This limit is based on the maximum boiler heat input capacity feed rate of 192.8 MMBtu/hr and the worst case coal heating value of 8,000 Btu/lb;
- Incorporation of enforceable boiler main stack minimum requirements of 100.5 feet tall and 6 feet in diameter;
- Incorporation of an enforceable minimum coal heating value of 8,000 British thermal units per pound (Btu/lb) of coal;
- Incorporation of an enforceable maximum sulfur in coal value of 1.0% sulfur by weight;
- Incorporation of new NO_x, CO, VOC, SO_X, and HCl BACT emission limits for boiler operations. The BACT analyses and determination(s) for modified boiler emissions were conducted due to the increased boiler heat input capacity. A BACT analysis and determination summary was provided in the permit analysis to MAQP #3175-01;
- Incorporation of an enforceable coal conveyor maximum capacity of 200 ton/hr for each coal handling conveyor at the TRC site;
- Incorporation of an enforceable partial (3-sided) enclosure requirement for coal conveyor loading en-route to the coal day bin S1;
- Addition of a 60 MMBtu/hr capacity diesel and/or propane-fired boiler pre-heater to the existing permitted equipment at the facility. The pre-heater would not be allowed to operate while the boiler is producing energy or the boiler fuel feed is in operation and would be limited to a maximum of 500 hours of operation per year;
- Addition of refractory curing heaters with a maximum combined heat input capacity of 60 MMBtu/hr to the existing permitted equipment at the facility. The refractory curing heaters would not be allowed to operate while the boiler is producing energy or the boiler fuel feed is in operation and each heater would be limited to a maximum of 500 hours of operation during any rolling 12-month time period;
- Modification of the permitted BACT requirement for primary coal storage within a baghouse controlled silo. Outdoor storage of coal utilizing wind fencing, earthen berm, and water spray, as necessary, to control fugitive coal storage PM/PM_{10} emissions would replace the initial BACT determination under MAQP #3175-00. A summary of the BACT analysis used to make the new outdoor fuel storage BACT determination is contained in Section III of the permit analysis for MAQP #3175-01;
- Addition of on-site wood-waste biomass storage operations utilizing wind fencing, earthen berm, and water spray, as necessary, as BACT control of fugitive wood-waste biomass storage PM/PM_{10} emissions. A summary of the BACT analysis used to make this BACT determination is contained in Section III of the permit analysis for MAQP #3175-01;
- Revisions to the previously permitted ash handling operations for the addition of a second ash handling bin vent under a new BACT determination. A summary of the BACT analysis used to make this BACT determination is contained in Section III of the permit analysis for MAQP #3175-01;
- Incorporation of an enforceable coal storage limit of 6,000 tons at any given time;
- Incorporation of an enforceable on-site wood-waste storage limit of 3,000 tons at any given time; and
- Incorporation of PM_{10} ambient air quality monitoring requirements into the permit.

Also, TRC requested that the Department modify the previously permitted BACT requirement that all fuel transfer conveyors be enclosed to require that all fuel transfer conveyors must be covered. TRC constructed coal fuel conveyors incorporating a cover, which extends past the conveyor, creating, in effect, an enclosed conveying system. Further, TRC proposed the construction of a fully enclosed pneumatic conveying system for wood-waste biomass fuel. The Department determined that these conveying systems constitute enclosed fuel transfer conveyors; therefore, the Department will not modify the permit to require covered versus enclosed conveyors.

Because many of the above cited permit modifications affected the concentration of and plume rise and dispersion characteristics of pollutants resulting from modified TRC operations, the Department determined that air dispersion modeling was required to demonstrate compliance with applicable National and Montana Ambient Air Quality Standards (NAAQS/MAAQS). A summary of air dispersion modeling results is contained in Section VI, Ambient Air Quality Impacts, of the permit analysis for MAQP #3175-01.

The preliminary determination was open for public comment from October 8, 2004, through October 25, 2004. Based on comments received during the public comment period, the Department modified the preliminary determination as follows:

- Incorporation of an enforceable requirement for coal fuel chlorine and ash content reporting during all source testing (Section II.C.5);
- Correction of the ambient air impact analysis summary to indicate the correct information analyzed (Section VI of the Permit Analysis and Section 7.F of the EA);
- The dry lime scrubber BACT control requirement was referenced as an FGD throughout the Department decision and permit analysis for consistency and clarification of terms;
- Modification of the language contained in Section II.A.26 of the preliminary determination from the "on-site" coal storage limit of 6,000 tons to the analyzed and intended "outside" coal storage limit of 6,000 tons;
- Incorporation of increased PM_{10} ambient air quality monitoring schedule. The Department maintains that a single ambient air quality monitor remains appropriate; however, the Department modified the ambient monitoring schedule to require sample analysis on an every 3rd day schedule year round; and
- Incorporation of an enforceable boiler steam production limit in place of the electrical megawatt production limit included in the preliminary determination (Section II.A.1).

MAQP#3175-01 replaced MAQP #3175-00.

On February 24, 2005, the Department received from TRC a notice of an administrative error contained in TRC's MAQP #3175-01. Specifically, Section II.C, Testing Requirements, did not include a specific testing schedule for NO_x emissions from the boiler, while Section II.B clearly specified that boiler NO_x emission limits are subject to source testing. MAQP #3175-01 did include provisions enabling the Department to invoke boiler NO_x source testing; however, at the request of TRC and in the interest of providing clarification for boiler NO_x source testing requirements, the current permit action amended the permit to include the appropriate NO_x source testing schedule under the provisions of ARM 17.8.764(1)(c). The amended NO_x source-testing requirement was included in Section II.C.1 of MAQP #3175-02.

Further, on April 8, 2005, TRC submitted a request for an additional permit amendment under the provisions of ARM 17.8.764(1)(b) to change the existing Method 5 source-testing schedule for various permitted emitting units, maintain and specify the implied Method 9 source testing schedule, and accurately characterize certain emitting unit control technologies as fabric filter bin vents. In the initial application for MAQP #3175-00 and subsequent MAQP modification #3175-01, emitting units DC-2 (Fuel Handling Bin Vent), DC-3 (Lime Silo Bin Vent), DC-4 (Fly-Ash Silo

Bin Vent), and DC-6 (Bottom-Ash Silo Bin Vent) were inconsistently characterized as varied types of fabric filter dust collecting systems (i.e. baghouses, bin vents, and/or dust collectors) and inaccurately characterized as having a continuous air-flow. These units are actually fabric filter bin vents, which control particulate emissions using natural draft or simple air displacement within the associated silo, or similar unit, to provide air flow through the filter. Given this information, the Department determined that the appropriate permit limit(s) for the affected units remained 20% opacity and a grain-loading limit of 0.02 gr/dscf. In accordance with Department fabric filter bin vent testing guidance the Department determined that the appropriate compliance demonstration for these units is an initial and periodic Method 9 source testing. Therefore, under the provisions of ARM 17.8.764(1)(b), the Department is amending the permit to remove the implied initial Method 5 source test requirement for the affected units and maintain initial and periodic Method 9 source testing. However, the Department maintained the authority to require a Method 5 source test demonstration for the affected units. Further, the permit action re-characterized all affected units as bin vents throughout the permit to clarify the nature of the control device.

In addition, since TRC has accomplished various notification requirements contained in Section II.G of MAQP #3175-01, those affected notifications were removed from the permit. **Permit #3175-02** replaced Permit #3175-01.

On January 4, 2006, the Department received a complete application for the modification of TRC's MAQP #3175-02. The application was assigned **Permit #3175-03**. Specifically, TRC requested various changes to applicable permit terms/conditions relating to the Babcock and Wilcox Spreader-Stoker boiler. On February 10, 2006, the Department issued a Preliminary Determination (PD) on Air Quality Permit #3175-03 for the proposed modification of the TRC air quality permit. On March 13, 2006, and subsequently on May 3, 2006, the Department received official public comment and supporting information from TRC indicating to the Department that TRC could not comply with the existing air quality permit or limits proposed in the Department's PD, some of which constituted BACT. This information was not included in the TRC permit application for Permit Action #3175-03 and was not analyzed by the Department in the permit application review process and, therefore, not identified in the PD issued for public comment. Because the above-cited information indicated to the Department that TRC was unable to comply with all applicable requirements, the Department's decision was to deny TRC's application for permit modification #3175-03. In a letter dated May 19, 2006, the Department denied the application and indicated that if TRC wished to pursue changes to its existing air quality permit, a complete application, including all relevant information, must be submitted to the Department for review. **Permit #3175-03** was denied and did not replace Permit #3175-02.

On June 9, 2006, the Department received a complete application for the modification of TRC's MAQP #3175-02. Based on Department review of TRC's application for permit modification, the following modifications were made to TRC's permit:

SO_2 Modifications:

- Removal of the requirement that the installed SO_2 control equipment meet or exceed 90% SO_2 reduction. Based on the equipment specific information contained in the application for permit modification, the Department determined that this efficiency was not achievable on a steady-state basis and promoted the combustion of coal fuel with a higher sulfur concentration in order to attain a higher percent reduction without additional environmental benefit;
- Modification of the SO_2 control strategy language to require a generic FGD system in place of the previously specified dry-lime scrubber SO_2 control requirement. This modification afforded TRC flexibility in choosing and installing an SO_2 control strategy capable of achieving the permitted BACT emission limits;

- Modification of the existing SO_2 BACT emission limit of 0.220 lb/MMBtu based on a 1-hr average to 0.220 lb/MMBtu based on a 30-day rolling average. Because coal sulfur content and heating value is variable, the Department determined that the 30-day rolling SO_2 BACT emission rate averaging time was appropriate in this case as it provides needed flexibility for the combustion of worst-case allowable coal on a short-term basis and assurance that the affected unit will operate through combustion of typical coals for longer term normal operations. The SO_2 BACT limit of 0.220 lb/MMBtu was the same as the existing SO_2 BACT limit under Permit #3175-02. However, this limit was different than the SO_2 BACT limit proposed under the Department's preliminary determination on Permit #3175-03, which was subsequently denied by the Department.
- The Department determined that a secondary lb/hr BACT emission limit based on the permitted BACT emission rate in lb/MMBtu and the boiler heat input capacity was redundant; therefore, the permit action removed the previously BACT determined emission limit of 42.42 lb/hr. Because the permit action maintained an enforceable boiler heat input limit, the Department determined that the BACT determined emission limit in lb/MMBtu was protective of the permit analysis and constituted BACT.
- Inclusion of a boiler SO_2 emission limit of 155.0 lb SO_2/hr applicable during defined periods of startup and shutdown only. TRC provided a boiler startup and shutdown plan (Attachment 3) describing the operational circumstances which constitute boiler startup and shutdown. As reported in the application for the permit action, the required FGD SO_2 control equipment would be rendered ineffective until the boiler reaches an operational steam production level of approximately 70,000 pounds of steam per hour (information from Hamon Research Cottrell) or a heat input value of approximately 104 MMBtu/hr. The boiler steam load capacity was reported at 130,000 pounds of steam per hour at 192.8 MMBtu/hr. On June 7, 2006, the Department sent TRC an application deficiency letter highlighting information lacking from the application for Permit #3175-04. In the deficiency letter, the Department asked TRC how the boiler would comply with an uncontrolled SO_2 emission limit of 155 lb/hr considering that worst-case permitted allowable coal (8000 Btu/lb and 1% sulfur) combusted at a heat input rate of 104 MMBtu/hr would result in emissions exceeding this limit. In response to the Department's letter, TRC indicated that the above-cited worst-case allowable coal is theoretical and that actual coals received from the contracted coal supplier would have higher Btu content and lower sulfur concentration than the worst-case allowable coal. TRC further indicated that more typical coal would be stockpiled on-site to ensure compliance with the start-up and shutdown uncontrolled emission limit of 155 lb/hr. Assuming combustion of TRC reported typical coal at approximately 10,200 Btu/lb and 0.7% sulfur and a boiler heat input rate of 104 MMBtu/hr (effective FGD control cut-off level), uncontrolled SO_2 emissions from the TRC stoker boiler would not exceed 155 lb/hr. The SO_2 startup and shutdown emission limit of 155.0 lb SO_2/hr was shown through modeling to be protective of the applicable ambient air quality standard(s).
- Inclusion of a worst-case 1-hour SO_2 emission limit of 72.3 lb/hr based on a 1-hr averaging period applicable at all times except during periods of startup and shutdown. Based on the information contained in the application for Permit #3175-04, the Department determined that this action was justified, as this rate represents an 85% SO_2 control efficiency (guaranteed LSD/FGD control efficiency) when combusting permitted allowable worst-case coals and assuming a boiler heat input of 192.8 MMBtu/hr.
- Inclusion of an SO_2 continuous emissions monitoring system (CEMS) requirement. The Department determined, based on TRC's past SO_2 reduction performance, that an SO_2 CEMS is justified, especially considering the longer-term SO_2 emission limit averaging time (rolling 30-day average) deemed BACT under Permit #3175-04.

NO_x Modifications:

- BACT-determined SNCR and FGR NO_x control requirements in combination with the existing BACT requirement for OFA NO_x control.
- Modification of the existing NO_x BACT-determined emission rate of 0.178 lb/MMBtu based on a 1-hr average to 0.196 lb/MMBtu based on a rolling 30-day average. As specified in the permit, an emission limit of 0.28 lb/MMBtu would be applicable during the initial 10-day SNCR mapping/testing period prior to installation and operation of SNCR. An emission limit of 0.28 lb/MMBtu represents the TRC reported achievable NO_x emission rate assuming the BACT-determined OFA and FGR NO_x combustion controls are installed and operational during the SNCR mapping/testing period, as required by permit. Further, since the proposed SNCR NO_x control strategy in combination with the existing NO_x combustion controls (OFA/FGR) constituted BACT for NO_x emissions, the Department determined that an emission limit of 0.196 lb NO_x/MMBtu constituted BACT. This emission limit/rate represents an additional 30% reduction (SNCR manufacturers guarantee) in NO_x emissions through incorporation of SNCR, assuming the reported combustion control emission rate of 0.28 lb/MMBtu and a boiler heat input rate of 192.8 MMBtu/hr. The Department determined that a rolling 30-day average to demonstrate compliance with the BACT-determined limit was justified. The increased averaging time provided necessary flexibility due to reported variability in boiler operating temperature and related SNCR and combustion control efficiency. The NO_x BACT limit of 0.196 lb/MMBtu is different than the NO_x BACT limit proposed under the Department's preliminary determination on Permit #3175-03, which was subsequently denied by the Department;
- Inclusion of a boiler NO_x emission limit of 74.0 lb NO_x/hr applicable during defined periods of startup and shutdown only (see Attachment 3). TRC provided a boiler startup and shutdown plan describing the operational circumstances which constitute boiler startup and shutdown. Based on information from Fuel Tech, Inc. (manufacturer of SNCR system), the SNCR unit would not be effective at a heat input rate of less than 134 MMBtu/hr. The function of the OFA and FGR is similarly reduced at lower operating loads on the boiler and is essentially shut down below approximately 90 MMbtu/hr based on the recommendations of the boilers combustion system manufacturer. Based on this information, a short term limit considering no control and maintaining compliance with the applicable ambient air quality standards was necessary in order for the TRC boiler to operate within the requirements of the permit. Assuming an uncontrolled NO_x emissions rate of 0.55 lb/MMBtu (AP-42, Section 1.1) and a boiler heat input rate of 134 MMBtu/hr (effective NO_x control cut-off level), uncontrolled NO_x emissions from the TRC stoker boiler firing subbituminous coal would be 74.0 lb/hr. Through the permit application process for this permit modification, TRC demonstrated compliance with the applicable ambient air quality standards through modeling an emissions rate of 195 lb NO_x/hr. Therefore, a NO_x emission rate of 74 lb/hr was deemed appropriate and was shown to be protective of the health-based ambient air quality standards.
- Inclusion of a worst case 1-hour average NO_x emission limit of 47.24 lb/hr applicable at all times except during periods of startup and shutdown. Based on the information contained in the application for Permit #3175-04, the Department determined that this action was justified, as this rate represents a 30% reduction (guaranteed SNCR control efficiency) from the reported worst-case NO_x emissions rate of 0.35 lb/MMBtu, assuming a boiler heat input of 192.8 MMBtu/hr and required combustion controls (OFA and FGR).

Other Permit Modifications:

- Modification of the hourly boiler heat input limit of 192.8 MMBtu/hr to a limit of 192.8 MMBtu/hr based on a 24-hour average and maintenance of the annual boiler heat input limit of 1,688,928 MMBtu/yr. The annual heat input limit represents the reported and analyzed sustainable boiler heat input capacity of 192.8 MMBtu/hr (192.8 MMBtu/hr x 8760 hr/year).

The application for Permit #3175-04 proposed removal of the existing short-term boiler heat input limit of 192.8 MMBtu/hr and maintenance of the annual heat input limit. TRC's application for permit modification stated that because this heat input value (192.8 MMBtu/hr) was used in the calculation establishing the boiler BACT emission limits, the affected BACT limit takes into account heat input as part of the limit itself and the limit is therefore redundant. The Department disagreed with the conclusions of this argument because there is some uncertainty as to the boiler's heat input capacity and because this heat input value has been relied upon in the analysis establishing the boiler BACT limits. In the application for Permit #3175-04 (and supporting documentation under permit action #3175-03), TRC reported that the boiler may potentially accommodate a continuous maximum firing rate of approximately 215 MMBtu/hr. However, the analysis conducted by TRC for the permit action maintained a sustainable boiler heat input capacity of 192.8 MMBtu/hr and not 215 MMBtu/hr. Therefore, the Department determined that inclusion of a short-term enforceable heat input limit was necessary to protect the analysis conducted for the proposed boiler. Further, because the boiler's heat input was directly related to BACT emissions limits, incorporation of a short-term heat input limit provided additional and practical assurance of compliance with permit limits. Finally, because the Department's analysis relied on a boiler heat input rate of 192.8 MMBtu/hr as the sustainable steady-state boiler heat input capacity the Department determined that a 24-hour (calendar-day), rather than a 1-hour, averaging period was appropriate to demonstrate compliance with the limit in this case. To provide basis for the Department's determination on the appropriate averaging period for a sustainable boiler heat input rate, the Department used indirect guidance from USEPA related specifically to federal New Source Performance Standards applicability under 40 CFR, Part 60, Subpart D. This guidance (Applicability Determination Index Control Number 0300104) states, "the heat input rate of the steam generating unit should be based on a 24-hour full load demonstration measuring peak Btu/hr heat input after achieving steady-state conditions.";

- Removal of the steam production limit of 130,000 lb/hr. This limit was included in the previous permit(s) to protect the analyses conducted for boiler operation and control. However, the Department believes that other existing and new permit limits and conditions served this purpose and that the steam production limit was unnecessary and actually penalized TRC for potential increased efficiency;
- Removal of the boiler baghouse fan flow rate of 40,513 dscfm. This limit was included in the previous permit(s) to protect the analyses conducted for boiler operation and control. However, in concurrence with the current permit application, the Department believes that other existing and new permit limits and conditions serve this purpose.
- Inclusion of boiler startup and shutdown limits and operating conditions applicable during periods of startup and shutdown only and a boiler startup and shutdown plan describing operational circumstances which constitute boiler startup and shutdown events. The Department believes that any startup and shutdown emissions must consider the startup and shutdown process, fuels, and controls, if applicable.
- Interim cessation of PM_{10} ambient air quality monitoring requirements until initial startup of the boiler after issuance of Permit #3175-04, and continued operations thereafter.

The preliminary determination was subject to public comment from July 6, 2006, through August 7, 2006. Based on comments received during the public comment period, the Department modified the preliminary determination as follows:

- Removal of the boiler start-up and shutdown event notification requirement contained in Section II.N.9 of the Department's preliminary determination #3175-04. The recordkeeping requirements contained in Section II.K.15 provided adequate compliance assurance related to start-up and shutdown event recordkeeping and notification.

Permit #3175-04 replaced Permit #3175-02.

Title V Operating Permit History

On August 20, 2002, TRC was issued final and effective Title V Operating Permit #OP3175-00.

E. Current Permit Action

The current permit action is a significant modification to and renewal of TRC's Title V Operating Permit #OP3175-00. As described in Section I.D, Montana Air Quality Permit History, of this Technical Review Document, the Department has issued final MAQP #3175-01 and MAQP #3175-02, denied MAQP #3175-03, and issued final MAQP #3175-04 since issuance of Title V Operating Permit #OP3175-00. The current permit action updates the Title V Operating Permit to include all applicable requirements incorporated under MAQP #3175-04, as described in Section I.D, Montana Air Quality Permit History; updates the previous pollutant specific Compliance Assurance Monitoring (CAM) Plan for the control technology controlling SO_2 emissions from the Boiler; and adds pollutant specific CAM Plans for the affected control technologies controlling NO_x, PM_{10}, and HCl emissions, respectively, from the Boiler. **Permit #OP3175-01** replaces Permit #OP3175-00.

Based on comments received during the public comment period on the draft Permit #OP3175-01, the Department modified the draft permit as described in Section III.G of this technical review document #TRD3175-01. Further, after issuance of the draft Permit #OP3175-01, the Department realized that specific conditions, compliance demonstrations, recordkeeping, and reporting requirements for the applicable CAM Plan were inadvertently not included in Section III.B.II, as required. Under the proposed Permit #OP3175-01, the Department updated Section III.B.II and the associated summary table to include the appropriate CAM Plan references.

F. Compliance Designation

On September 14, 2005, the Department issued Violation Letter #VLKW05-11 to TRC for violations of the Clean Air Act of Montana and failure to comply with permit conditions at TRC's Thompson Falls location.

Specifically, the violation letter noted the following violations

1. Continuous Emission Monitor Systems Violations - TRC submitted no CEMS/COMS data regarding opacity or NO_x emissions for the period from December 2, 2004, (the date the Boiler began operating) through March 29, 2005, due to a data acquisition system (DAS) failure.

   Additionally, TRC reported in the second quarter (April, May, and June) 2005 Excess Emission Report that the NO_x CEMS was unavailable for 37.8% of the Boiler operating time in the quarter.

2. NO_x Limits Failures - MAQP #3175-02 limited NO_x emission to: 0.178 lb/MMBtu and 34.42 lb/hr. TRC's May 27, 2005, NO_x source testing results were: 0.247 lb/MMBtu and 48.35 lb/hr.

   TRC reported 748 hours of exceedances of the permitted NO_x emission limit expressed in lb/MMBtu from April 21, 2005, through May 27, 2005, before the NO_x CEMS was certified. After the NO_x CEMS was certified, TRC reported that the Boiler exceeded the NO_x lb/MMBtu permit limit 714 times between May 27, 2005, and September 16, 2005.

TRC reported 718 hours of exceedances of the permitted NO_x emission limit expressed in lb/hr from April 21, 2005, through May 27, 2005, before the CEMS was certified. After the NO_x CEMS was certified, TRC exceeded the Boiler NOx lb/hr permit limit 581 times between May 27, 2005, and September 16, 2005.

3. SO_2 Limits Failures - MAQP #3175-02 limited SO_2 emissions to: 0.220 lb/MMBtu and 42.42 lb/hr. TRC's May 27, 2005, SO_2 source testing results were: 0.766 lb/MMBtu and 150.15 lb/hr.

   MAQP #3175-02 required TRC to maintain the control efficiency of the SO_2 emission control equipment at a minimum of 90% based on a rolling 30-day average. TRC failed to determine the SO_2 control efficiency of the control equipment before May 31, 2005. TRC has not reported to the Department any data related to TRC's determination of the control efficiency of the SO_2 emission control equipment.

4. Exceedances of Boiler Heat Input Limits - MAQP #3175-02 limited the Boiler heat input to 192.8 MMBtu/hr. No data regarding the Boiler heat input limit was submitted to the Department for the time period from December 2, 2004, through March 29, 2005, due to DAS failure. TRC reported 444 hours of exceedances of the 192.8 MMBtu/hr permit limit between March 30, 2005, and September 16, 2005.

5. Exceedances of Boiler Steam Limit - MAQP #3175-02 limited the Boiler steam production to 130,000 lb/hr. No data regarding the Boiler steam production limit was submitted to the Department for the time period from December 2, 2004, through March 29, 2005, due to a DAS failure. TRC reported 60 hours of exceedances of the 130,000 lb/hr permit limit between March 30, 2005, and September 16, 2005.

6. Ambient PM_{10} Monitor - MAQP #3175-01 (which became final on November 23, 2004) required TRC to operate a PM_{10} ambient air quality monitoring site. TRC began operating the Boiler on December 2, 2004. TRC began operating the PM_{10} air quality monitor on March 11, 2005. There was a time delay of over 3 months between when the air quality permit initially requiring the air quality monitoring station became final and when the monitoring station began operating.

On December 2, 2005, the Department sent TRC a letter notifying TRC that the Department initiated formal enforcement action regarding the violations described in Violation Letter #VLKW05-11.

On February 24, 2006, the Department sent TRC a letter describing proposed enforcement actions for the violations underlying Violation Letter #VLKW05-11. This letter included a calculated penalty of $1,894,200.

The Department and TRC have held numerous meetings since February 24, 2006, to discuss the details of the case. As of July 27, 2007, the outstanding issues of non-compliance discussed above are pending.

SECTION II. SUMMARY OF EMISSION UNITS

A. Facility Process Description

TRC operates a 16.5-MW capacity coal/wood-waste biomass-fired electricity and steam co-generation plant. The plant incorporates a 192.8 MMBtu/hr capacity boiler (Boiler), which produces approximately 130,000 pounds of steam per hour. Most of the steam is sent to a turbine generator for the production of electricity to be sent to the power grid with a small percentage (up to 10%) of the steam and energy produced sent directly to Thompson River Lumber Company (TRL), for use in the lumber dry kilns and general operations at the sawmill. TRC has a parasitic electricity load (use) of approximately 0.4 MW.

The relationship between TRC and TRL is symbiotic, however, because the two sources are under separate ownership and control and are covered under separate Standard Industrial Classification (SIC) codes, the two sources are considered separate sources.

The Boiler is supported by coal and wood-waste biomass fuel handling system(s), including outdoor fuel storage; a cooling tower; a lime handling system; an ash/fly ash handling system; and various support trucks/vehicles. The Boiler and supporting facilities incorporate various emission control devices to limit potential pollutant emissions from each source.

The Boiler uses BACT-determined OFA, FGR, and SNCR to control NO_x emissions, a combination of low sulfur coal (≤ 1% sulfur by weight) and BACT-determined Dry FGD in tandem with the boiler baghouse to control SO_2 emissions, the same BACT-determined Dry FGD and baghouse to control mercury, HCl, and other acid gas emissions, BACT-determined combustion control to limit CO emissions, a BACT-determined baghouse to control PM/PM_{10} emissions, and BACT-determined proper design and combustion to control VOC emissions. Boiler combustion gases will first enter the Dry FGD then pass through the Boiler baghouse and eventually vent to the atmosphere through the Boiler main stack.

The Boiler fires low-sulfur coal and/or wood waste bio-mass only, except for periods of start-up, shutdown, malfunction, and Boiler commissioning where the 60 MMBtu/hr propane or diesel fired boiler pre-heater will be in operation. The Boiler pre-heater cannot be in operation while the boiler is producing energy or the boiler solid fuel feed system is operational and the unit is limited to a maximum of 500 hours of operation during any rolling 12-month time period.

Coal is delivered by railcar and unloaded to an under-track hopper. Air displaced from the under-track hopper is vented to DC1. Some coal is stored in the under track hopper while the majority of coal is transferred from the under-track hopper, via front-end loader, to an outside storage area incorporating wind fencing, an earthen berm, and water spray, as necessary, to control fugitive dust emissions from coal storage operations. From the under-track hopper and the outdoor coal storage area, coal is transferred, via a front-end loader, to a 3-sided feed hopper and on to a 200 ton/hr capacity enclosed conveyor (C1) that transfers coal to a second 200 ton/hr capacity enclosed conveyor (C2) that unloads to an enclosed day-bin silo (S1) on top of the Boiler-house. Air displaced from the transfer between the front-end loader and the feed-hopper and the conveyor transfer points between the feed-hopper and C1 and C1 to C2 is vented to DC1 while air displaced from the transfer between C2 and S1 vents to DC2. Additionally, wood waste is delivered to the site for storage until use is needed. Wood-waste biomass is stored in an outside storage area incorporating wind fencing, an earthen berm, and water spray, as necessary, to control fugitive dust emissions from wood-waste storage operations. From the on-site storage area, wood-waste is transferred to the adjacent TRL, for processing into fuel grade wood-waste. After processing at the TRL site, the fuel grade wood-waste is pneumatically transferred through an enclosed pneumatic conveying system to the TRL boiler. After reaching the TRL Boiler, the wood-waste enters a cyclone (CS1), and is transferred directly into

the boiler through the OFA ports. Air entering the boiler via the wood-waste biomass pneumatic feed is vented directly through the boiler baghouse (DC5). The transfer of fuel from S1 to the Boiler is controlled by negative pressure from the boiler.

Lime for use in the Dry FGD is delivered by trucks and pneumatically conveyed to a 1,000-ton capacity storage silo (S3). From S3 lime is pneumatically conveyed to the Dry FGD. Air that is displaced from S3 is vented through DC3.

Combustion in the Boiler produces bottom ash and fly ash. The ash is temporarily stored in silos on site including fly-ash silo (S4) and bottom-ash silo (S5). Bottom-ash from S5 is gravity-fed through a partial enclosure (3-sided enclosure) to a truck for removal from the site while fly ash from S4 is gravity fed through a retractable load out spout to a truck for removal from the site. Air displaced from the transfer between trucks and S4 and S5 is vented to DC4 and DC6.

A cooling tower is used to dissipate heat from the boiler by using the latent heat of water vaporization to exchange heat between the process and the air passing through the cooling tower. The cooling tower uses an induced counter flow draft incorporating 3 cells. The make up rate for the cooling tower is 125 gallons per minute. Water for the cooling tower comes from the Clark Fork River. TRC uses a portion of the water rights granted to TRL to acquire the water for operations. Cooling tower water is discharged to an on-site evaporation pond.

B. Emission Units and Pollution Control Device Identification

The following table indicates all significant (PTE > 5 TPY) permitted sources of emissions and emission controls utilized for each emitting unit at the TRC facility:

Emitting Unit/Process	Control Device/Practice
Babcock & Wilcox Spreader Stoker Boiler (192.8 MMBtu/hr)	PM/PM_{10} – Baghouse (40,513 dscfm) SO_2 – Dry FGD / Baghouse NO_x – OFA, FGR, SNCR HCl – Dry FGD / Baghouse H_2SO_4 – Dry FGD / Baghouse Hg – Dry FGD / Baghouse
Fuel Storage and Handling Operations (Coal & Wood-Waste Biomass)	Enclosures, Fuel Handling Baghouse – DC1and Fuel Handling Bin Vent Dust Collector – DC2 (2200 dscfm and 1000 dscfm, respectively)
Lime Storage and Handling Operations	Enclosures, Lime Silo Bin Vent Dust Collector – DC3 (1000 dscfm)
Ash/Fly Ash Storage and Handling Operations	Enclosures, Fly Ash Bin Vent Dust Collector – DC4 (1000 dscfm), Retractable Load-out Spout (Truck Transfer)
Boiler Pre-Heater (60 MMBtu/hr – Diesel or Propane-Fired)	500 hr/yr Operational Limit
Refractory Curing Heater(s) (60 MMBtu/hr – Propane-Fired)	500 hr/yr Operational Limit
Truck Traffic/Haul Roads	Paved Roads, Water and/or Chemical Dust Suppressant.

C. Categorically Insignificant Sources/Activities

The following table indicates all insignificant (PTE < 5 TPY) permitted sources of emissions and emission controls utilized for each emitting unit at the TRC facility:

Emitting Unit/Process	Control Device/Practice
Wet Cooling Tower	NA

SECTION III. PERMIT CONDITIONS

A. Emission Limits and Standards

1. The Department determined that the emission limits that apply to EU001 – the Babcock & Wilcox Spreader Stoker Boiler are as follows:

   - The boiler start-up and shutdown NO_x emission limit represents worst-case uncontrolled NO_x emissions from the boiler. Based on information from Fuel Tech, Inc. (manufacturer of SNCR system), the SNCR unit would not be effective at a heat input rate of less than 134 MMBtu/hr. The function of the OFA and FGR is similarly reduced at lower operating loads on the boiler and is essentially shut down below approximately 90 MMbtu/hr based on the recommendations of the boilers combustion system manufacturer. Assuming an uncontrolled NO_x emissions rate of 0.55 lb/MMBtu (AP-42, Section 1.1) and a boiler heat input rate of 134 MMBtu/hr (effective NO_x control cut-off level), uncontrolled NO_x emissions from the TRC stoker boiler firing subbituminous coal would be 74.0 lb/hr. The NO_x start-up and shutdown emission limit applies only during defined periods of start-up and shutdown (see Appendix H) and was shown through modeling to be protective of the applicable ambient air quality standard(s).
   - The boiler start-up and shutdown SO_2 emission limit represents worst-case uncontrolled SO_2 emissions from the boiler. The required FGD SO_2 control equipment would be rendered ineffective until the boiler reaches an operational steam production level of approximately 70,000 pounds of steam per hour (information from Hamon Research Cottrell) or a heat input value of approximately 104 MMBtu/hr. Assuming combustion of TRC reported typical coal at approximately 10,200 Btu/lb and 0.7% sulfur and a boiler heat input rate of 104 MMBtu/hr (effective FGD control cut-off level), uncontrolled SO_2 emissions from the TRC stoker boiler would be 155 lb/hr. The SO_2 startup and shutdown emission limit applies only during defined periods of start-up and shutdown (see Appendix H) and was shown through modeling to be protective of the applicable ambient air quality standard(s).
   - The PM/PM_{10} limit was established through the required BACT analysis and determination process under the provision of ARM 17.8.752. The limit is based on a grain (gr) loading limit for the fabric filter baghouse controlling emissions from the boiler. The applicable limit is 5.90 lb/hr and 0.017 gr/dry standard cubic foot (dscf). PM/PM_{10} emissions shall be controlled by the use of a fabric filter baghouse with a flow capacity of 40,513 dscf.
   - The opacity limit was established as a New Source Performance Standard under 40 CFR Part 60, Subpart Db and deemed to be BACT. The applicable opacity limit is 20% or greater averaged over 6 consecutive minutes except for one 6-minute period per hour of not greater than 27% opacity.
   - The NO_x limits were established through the BACT process and the requirements of ARM 17.8.749, as applicable. After installation of SNCR required under MAQP #3175-04, the applicable NO_x BACT-determined emission limit is 0.196 lb/Million British thermal unit (MMBtu) heat input based on a 30-day rolling average. Prior to installation of the SNCR unit, NO_x emissions are limited to 0.280 lb/MMBtu averaged over the initial 10-day SNCR mapping/testing period. This emission limit shall expire upon installation of SNCR. Further, except during periods of start-up and shutdown, NO_x emissions are limited to 47.24 lb/hr, based on a 1-hr average. Finally, during start-up and shutdown operations, NO_x emissions from the boiler stack shall not exceed 74.0 lb/hr. NO_x emissions shall be controlled by the use of OFA, FGR, and SNCR. Boiler start-up and shutdown provisions are contained in the Boiler Start-Up and Shutdown Procedures manual contained in Appendix H of Permit #OP3175-01.
   - The CO limit was established through the BACT process. The applicable CO limit is 49.92 lb/hr calculated on a rolling 1-hour average and 0.259 lb/MMBtu. CO emissions shall be controlled through good combustion practices.

- The SO_2 limits were established through the BACT process and the requirements of ARM 17.8.749, as applicable. The applicable SO_2 BACT-determined emission limit is 0.220 lb/MMBtu heat input based on a 30-day rolling average. Further, except during periods of start-up and shutdown, SO_2 emissions are limited to 72.3 lb/hr, based on a 1-hr average. Finally, during start-up and shutdown operations, SO_2 emissions from the boiler stack shall not exceed 155.0 lb/hr. SO_2 emissions shall be controlled by the use of a Dry FGD. Boiler start-up and shutdown provisions are contained in the Boiler Start-Up and Shutdown Procedures manual contained in Appendix H of Permit #OP3175-01.
- The VOC limit was established through the BACT process. The applicable limit is 5.93 lb/hr calculated on a rolling 1-hour average and 0.0308 lb/MMBtu. VOC emissions shall be controlled through good combustion practices.
- The HCl acid gas hourly and lb/MMBtu emission limits were established through the BACT process and the annual limit was established as a synthetic minor limit for MACT applicability. The applicable limits are 2.17 lb/hr calculated on a rolling 1-hour average, 9.50 ton/yr, and 0.01125 lb/MMBtu. HCl emissions shall be controlled by the use of a Dry FGD and a fabric-filter baghouse, in tandem.
- H_2SO_4 emissions shall be controlled by the use of a Dry FGD and a fabric-filter baghouse, in tandem.
- Mercury emissions shall be controlled by the use of a Dry FGD and a fabric-filter baghouse, in tandem.

2. The Department determined that the emission limits that apply to EU002 – Fuel Storage and Handling Operations (coal and wood-waste biomass) are as follows:

   - The PM/PM_{10} emission limit was established through the BACT process using a grain (gr) loading limit for the fabric filter baghouse and bin vent, respectively, controlling emissions from coal storage and handling operations. The applicable limit is 0.20 gr/dscf.
   - The opacity limit was established in the Administrative Rules of Montana (ARM) 17.8.304 and ARM 17.8.308. The applicable limit is 20% opacity averaged over a 6 consecutive minute period.

3. The Department determined that the emission limits that apply to EU003 – Lime Storage and Handling Operations are as follows:

   - The PM/PM_{10} emission limit was established through the BACT process using a grain (gr) loading limit for the bin vent dust collector controlling emissions from lime storage and handling operations. The applicable limit is 0.20 gr/dscf.
   - The opacity limit was established in ARM 17.8.304 and ARM 17.8.308. The applicable limit is 20% opacity averaged over a 6 consecutive minute period.

4. The Department determined that the emission limits that apply to EU004 – Ash/Fly Ash Storage and Handling Operations are as follows:

   - The PM/PM_{10} emission limit was established through the BACT process using a grain (gr) loading limit for the bin vent dust collector controlling emissions from ash/fly ash storage and handling operations. The applicable limit is 0.20 gr/dscf.
   - The opacity limit was established in ARM 17.8.304 and ARM 17.8.308. The applicable limit is 20% opacity averaged over a 6 consecutive minute period.

5. The Department determined that the boiler pre-heater EU005 shall be fired on diesel or propane only, shall be limited to a maximum heat input capacity of 60 MMBtu/hr, shall not be operated during boiler electricity production, and shall be limited to a maximum of 500 hours of operation during any rolling 12-month time period. There are no applicable emission limits for the boiler pre-heater.

6. The Department determined that the refractory curing heater(s) EU006 shall be fired on propane fuel only, shall be limited to a maximum heat input capacity of 60 MMBtu/hr, shall not be operated during boiler electricity production, and shall be limited to a maximum of 500 hours of operation during any rolling 12-month time period. There are no applicable emission limits for the refractory curing heaters.

7. The Department determined that the applicable opacity limit that applies to EU007 – Truck Traffic/Haul Roads is 20% opacity averaged over a 6 consecutive minute period. The opacity limit was established in ARM 17.8.308.

B. Monitoring Requirements

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required under applicable requirements are contained in operating permits. In addition, when the applicable requirement does not require periodic testing or monitoring, periodic monitoring must be prescribed that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirements for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance does not require the permit to impose the same level of rigor for all emission units. Furthermore, it does not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. When compliance with the underlying applicable requirement for an insignificant emission units is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (i.e., no monitoring) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for insignificant emission units.

The permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by the permittee to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to monitor compliance with the emission limits and standards.

C. Test Methods and Procedures

The operating permit may not require testing for all sources if routine monitoring is used to determine compliance, but the Department has the authority to require testing if deemed necessary to determine compliance with an emission limit or standard. In addition, the permittee may elect to voluntarily conduct compliance testing to confirm its compliance status.

D. Recordkeeping Requirements

The permittee is required to keep all records listed in the operating permit as a permanent business record for at least 5 years following the date of the generation of the record.

E. Reporting Requirements

Reporting requirements are included in the permit for each emissions unit and Section V of the operating permit "General Conditions" explains the reporting requirements. However, the permittee is required to submit semi-annual and annual monitoring reports to the Department and to annually certify compliance with the applicable requirements contained in the permit. The reports must include a list of all emission limit and monitoring deviations, the reason for any deviation, and the corrective action taken as a result of any deviation.

F. Public Notice

In accordance with ARM 17.8.132, a public notice was published in the *Sanders County Ledger* and *The Missoulian* on Wednesday, April 18, 2007. The Department provided a public comment period on the draft operating permit from April 18, 2007, through May 18, 2007. ARM 17.8.1232 requires the Department to keep a record of both comments and issues raised during the public participation process. The Department did not receive comments from any member of the affected public during the public comment period.

G. Draft Permit Comments

Summary of Permittee Comments

Permit Reference	Permittee Comment	Department Response
Section III.B.I.11 and Section III.B.I.12	On page 7 of the draft permit, Sections II.B.I.11 and II.B.I.12 state, "as required by the Department and Section III.A.1.," TRC shall conduct a Method 7 or 6 performance test during start-up and/or shutdown operations to monitor compliance with the boiler start-up and shutdown emission limits shown in…. TRC is unsure what this requirement means. Neither the testing requirements nor a schedule appear in the table for EU001 for the Boiler Start-up and Shutdown conditions. TRC is not aware of any start-up or shutdown requirements in the Montana Air Quality Permit (AQP) #3175-04 as a basis for this requirement. TRC requests the schedule be clarified, and listed in the table as well, or the testing requirement be removed entirely.	The affected language contained in Section(s) III.B.11 and III.B.12 constitutes standard Department language related to the compliance demonstration for affected conditions and limits for emitting units/processes for which a specific source testing schedule or other scheduled compliance monitoring methodology does not apply. Further, the Department inadvertently left the Method 7 and Method 6 compliance demonstration requirements, as indicated in Section III.B.11 and III.B.12, respectively, out of Table III.B.I. The Department has modified Table III.B.I to include reference to the required compliance demonstration(s).
Section III.B.II.28	On page 8, in the table for Boiler Operational Conditions, VOC emissions have an initial test listed. In Section III.B.II.28, there is no requirement for initial VOC testing. There is also no requirement for VOC testing listed in AQP #3175-04. TRC requests the initial VOC testing requirement be removed from the table.	Permit #OP3175-01 has been modified as requested.
Section III.B.II.34	On page 9, Section III.B.II.34 states, "TRC shall document, by month, the boiler heat input capacity value." TRC believes the intent of this section is to record total heat input in MMBtu for the month, not heat input capacity. TRC requests the word "capacity" be removed from this section.	Permit #OP3175-01 has been modified as requested.
Section III.C.11, Section III.C.12, Section III.C.13, Section III.D.7, Section III.D.8, Section III.E.7, Section III.E.8, Section III.F.6, Section III.G.6, Section III.H.3	On page 18, Section III.C.11, the Department defines excess emissions, for the purposes of the visual surveys, as emissions which meet or exceed 15%. If this threshold opacity value is observed, TRC must perform an actual Method 9 observation, and/or take corrective action. TRC does not understand why this action level is set below the opacity limit of 20% for the source. In effect, the Department is defining a new emission standard for these emitting units. ARM 17.8.1211(7) specifically states, "The requirement under this subchapter to obtain an air quality	The affected language contained in Section(s) Section III.C.11, Section III.C.12, Section III.C.13, Section III.D.7, Section III.D.8, Section III.E.7, Section III.E.8, Section III.F.6, Section III.G.6, Section III.H.3 constitutes standard Department language related to visual surveys/observations. Further, the Department does not believe that defining excess emissions as "emissions which meet or exceed 15%" constitutes establishing new emission limitations beyond those contained in the underlying applicable requirements to be incorporated

	operating permit may not be construed as providing a basis for establishing new emission limitations beyond those contained in the underlying applicable requirements to be incorporated into the permit." TRC believes the Department is not authorized to set any emission standard for this emitting unit other than the existing 20% limit. Therefore, TRC requests that the threshold for excessive emissions be set equal to the source opacity limit of 20%. This same comment applies to Sections III.C.12, III.C.13, III.D.7, III.D.8, III.E.7, III.E.8, III.F.6, III.G.6 and III.H.3.	into the permit; rather, the indicated opacity reading simply provides an indicator of needed corrective action and/or additional evaluation of compliance status with the affected applicable requirement (i.e. 20% opacity limit).
Section III.F.6	On page 26, Section III.F.6 requires a visual emission survey each time the boiler pre-heater is operated. It is TRC's understanding that the Department considers operating the boiler pre-heater the same as operating the boiler and, therefore, the COMS must be operating. If that understanding is correct, then TRC is required to operate the COMS during operations of the pre-heater. This makes performing a weekly visual survey a redundant compliance monitoring activity. TRC requests that the requirement to perform weekly visual surveys be removed from Section III.F.6.	Permit #OP3175-01 has been modified as requested.
Appendix G, Tables III and IV, Averaging Time	In Appendix G (CAM Plans), Tables III and IV, the department has added the requirement to operate a COMS and monitor opacity as an indicator for both PM_{10} and HCl emissions. The averaging period listed in both tables is listed as "ongoing." TRC believes this averaging period does not meet the requirement for averaging period as contemplated in 40 CFR 64.3, and that "ongoing" is an undefined period of time. TRC suggests a one-hour averaging time, which is consistent with 40 CFR 64.3.b.4.i, which states, "At a minimum, the owner or operator shall design the period over which data are obtained and, if applicable, averaged consistent with the characteristics and typical variability of the pollutant-specific emissions unit (including the control device and associated capture system). Such intervals shall be commensurate with the time period over which a change in control device performance that would require actions by owner or operator to return operations within normal ranges or designated conditions is likely to be observed." TRC believes a one-hour opacity excursion would indicate the need for baghouse inspection and maintenance work, while allowing brief spikes in opacity over 20%, which may be the result of normal operating conditions and not represent a problem with the baghouse.	The Department agrees that that "ongoing" is an undefined period of time and that a defined time period is appropriate in this case. However, the Department disagrees that a 1-hour averaging period is appropriate for the affected opacity limit indicator. As provided in the comment and accordance with 40 CFR 64.3.b.4.i, in relevant part: "…averaged consistent with the characteristics and typical variability of the pollutant-specific emissions unit (including the control device and associated capture system). Such intervals shall be commensurate with the time period over which a change in control device performance that would require actions by owner or operator to return operations within normal ranges or designated conditions is likely to be observed," the Department believes that an opacity reading averaged over 6-conscutive minutes is the appropriate averaging period for the affected indicator.

Summary of EPA Comments

Permit Reference	EPA Comment	Department Response

SECTION IV. NON-APPLICABLE REQUIREMENT ANALYSIS

Pursuant to ARM 17.8.1221, TRC requested a permit shield for all non-applicable regulatory requirements and regulatory orders identified in TRC Supplemental Information for the initial Operating Permit Application submitted to the Department on December 18, 2001, and updated in TRC's Operating Permit Renewal Application submitted to the Department on February 16, 2007.

The following table outlines those requirements that TRC had identified as non-applicable but, after Department review, will not be included in the operating permit as non-applicable. The table includes both the applicable requirement and reason that the Department did not identify this requirement as non-applicable.

Rule Citation	Reason
40 CFR 50 40 CFR 51 40 CFR 53 40 CFR 54 40 CFR 56 40 CFR 58 40 CFR 67 40 CFR 71 40 CFR 81 ARM 17.8.130 ARM 17.8.730 ARM 17.8.732	Although these rules contain requirements for the regulatory authorities and not major sources, these rules can be used as authority to impose specific requirements on a major source.
40 CFR 52	These rules do not have specific requirements and may or may not be relevant to a major source and should never be listed in the applicable or non-applicable requirements.
40 CFR 62 40 CFR 69 40 CFR 70	These rules do not have specific requirements and are always relevant to a major source and should never be listed in the applicable or non-applicable requirements.
40 CFR 61, Subpart A 40 CFR 61, Appendices A through E 40 CFR 63, Subpart A through E 40 CFR 65 40 CFR 66 40 CFR 68 ARM 17.8.514 ARM 17.8.515 ARM 17.8.708 ARM 17.8.731 ARM 17.8, Subchapter 8 ARM 17.8, Subchapter 9 ARM 17.8, Subchapter 10 ARM 17.8, Subchapter 11 ARM 17.8, Subchapter 13 ARM 17.8, Subchapter 14	These rules are procedural and have specific requirements that may become relevant to a major source during the permit span.
40 CFR 60, Subpart A ARM 17.8.204 – ARM 17.8.205 ARM 17.8.326	These rules are applicable to the source and may contain specific requirements for compliance.
ARM 17.8.1203	These rules consist of either a statement of purpose, applicability statement, regulatory definitions or a statement of incorporation by reference. These types of rules do not have specific requirements associated with them.

40 CFR 60, Subpart Ca 40 CFR 60, Subpart FF 40 CFR 60, Subpart JJ 40 CFR 60, Subpart OO 40 CFR 60, Subpart YY and Subpart ZZ 40 CFR 60, Subpart CCC 40 CFR 60, Subpart EEE 40 CFR 60, Subpart MMM 40 CFR 60, Subpart GGGG 40 CFR 60, Subpart JJJJ 40 CFR 60, Appendix E 40 CFR 60, Appendix H 40 CFR 60, Appendix I 40 CFR 61, Subpart G 40 CFR 61, Subpart S 40 CFR 61, Subpart U 40 CFR 61, Subpart X 40 CFR 61, Subpart Z 40 CFR 61, Subpart AA 40 CFR 61, Subpart CC 40 CFR 61, Subpart EE 40 CFR 63, Subpart K 40 CFR 63, Subpart P 40 CFR 63, Subpart V 40 CFR 63, Subpart Z 40 CFR 63, Subpart FF 40 CFR 63, Subpart NN 40 CFR 63, Subpart ZZ 40 CFR 63, Subpart FFF 40 CFR 63, Subpart KKK 40 CFR 63, Subpart SSS 40 CFR 63, Subpart WWW 40 CFR 63, Subpart UUUUU through Subpart ZZZZZ 40 CFR 63, Subpart AAAAAA through Subpart CCCCCC 40 CFR 79 40 CFR 80 40 CFR 83 – 40 CFR 84 40 CFR 98 – 40 CFR 99 ARM 17.8.104, ARM 17.8.107 through ARM 17.8.109, ARM 17.8.112 through ARM 17.8.119, ARM 17.8.122 through ARM 17.8.129, ARM 17.8.133 through ARM 17.8.139, ARM 17.8.203 ARM 17.8.303 ARM 17.8.305 through ARM 17.8.307, ARM 17.8.311 through ARM 17.8.314, ARM 17.8.317 through ARM 17.8.319, ARM 17.8.327 through ARM 17.8.329, ARM 17.8.335 through ARM 17.8.339 ARM 17.8.502, ARM 17.8.503, ARM 17.9.506 through ARM 17.8.509, ARM 17.8.512, ARM 17.8.513, ARM 17.8.603, ARM 17.8.607 through ARM 17.8.609, ARM 17.8.701 through ARM 17.8.734	These rules have been reserved and/or do not currently exist.

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SECTION V. FUTURE PERMIT CONSIDERATIONS

A. MACT Standards

This facility is potentially subject to 40 CFR Part 63, Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT). The final rule was published in the Federal Register on September 14, 2004, (FR, Vol 69, No. 176) and final promulgation of the Boiler MACT was on November 12, 2004. TRC has accepted federally enforceable HCl limits keeping potential boiler HCl limits below 10 tons per year and total HAPs emissions below 25 tons per year thereby classifying TRC as an area source under 40 CFR 63, Subpart DDDDD, and avoiding all substantive requirements of the Boiler MACT.

B. NESHAP Standards

As of July 27, 2007, the Department is unaware of any currently applicable or future NESHAP Standards that may be promulgated that will affect this facility.

Asbestos abatement projects and building demolition/renovation activities will be conducted in accordance with applicable asbestos regulatory requirements. Those regulatory requirements include, but are not limited to 29 CFR 1926.1101; 40 CFR 763 Sections 120, 121, 124, and Subpart E; 40 CFR Part 61, Subpart M; State of Montana Asbestos Control Act 75-2-501 through 519 MCA, and State of Montana Occupational Health Rules ARM 17.74.301 through 406. State-accredited asbestos abatement personnel shall conduct the abatement of regulated asbestos-containing materials. Asbestos-containing waste materials shall be transported properly and disposed of in a State-approved landfill.

C. NSPS Standards

The Babcock & Wilcox Spreader Stoker Boiler (EU001) is subject to the applicable requirements of 40 CFR 60, Subpart Db.

As of July 27, 2007, the Department is unaware of any other currently applicable or future NSPS Standards that may be promulgated that will affect this facility.

D. Risk Management Plan

As of July 27, 2007, this facility does not exceed the minimum threshold quantities for any regulated substance listed in 40 CFR 68.115 for any facility process. Consequently, this facility is not required to submit a Risk Management Plan.

If a facility has more than a threshold quantity of a regulated substance in a process, the facility must comply with 40 CFR 68 requirements no later than June 21, 1999; 3 years after the date on which a regulated substance is first listed under 40 CFR 68.130; or the date on which a regulated substance is first present in more than a threshold quantity in a process, whichever is later.